

Ongoing research by the International Livestock Research Institute and its partners is helping to:

- Upgrade the informal dairy sector in Kenya, which is generating annual benefits of USD26 million to consumers, producers and traders
- Develop extension material used by traders to check pigs for tapeworms, which allows them to offer a premium for tapeworm-free pigs
- Provide capacity building and post-graduate training in risk analysis for food safety to more than 50 academics and public-sector food-safety experts in 8 African countries
- Assess the risks of peri-urban farming in Kampala, resuting in a change in policy promoting safe city farming
- Conduct a large-scale vaccine trial for avian influenza, providing evidence for the best control strategy
- Develop and test rational drug-use material, which can slow the genesis and spread of resistance to zoonotic pathogens
- Develop a decision-support tool to improve government response to Rift Valley fever, which helps safeguard meat exports
- Develop, test and support governments to implement novel approaches to participatory surveillance for avian influenza
- Conduct an economic assessment of the health-related costs of food-borne disease in Nigeria, showing that these amount to USD800 million per year
- Support small-holder dairying in ways that are qualitatively improving children's nutrition
- Investigate consumer demand for food safety, showing that high levels of demand (even among poor people) can drive safer food systems

ILRI is supported by the Consultative Group on International Agricultural Research (CGIAR)

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ILRI
INTERNATIONAL LIVESTOCK RESEARCH INSTITUTE

Why animals matter to health and nutrition



Human, livestock and environmental health are inextricably linked. Most (61%) of all human diseases are zoonotic (that is, transmissible between animals and humans), including many important causes of sickness and death such as food-borne infections, rabies and anthrax.

Many other important human diseases, such as HIV-AIDS, measles and smallpox, were originally diseases of animals but jumped species when people changed ways of farming and using animals. Unprecedented levels of globalization, urbanization, animal production, and environmental degradation are driving new epidemics of infectious diseases, both familiar and novel. One new disease now emerges every four months, and 75% of these originate in animals.

But as well as these risks to human health and livelihoods, animals, especially domesticated livestock, provide enormous benefits, including food, fibre, fuels and raw materials. Livestock farming systems cover one-quarter of global land, livestock value chains employ 1.3 billion people and at least 600 million of the world's poor depend on livestock directly. Animal-source foods such as milk, eggs, fish and meat provide food for more than 800 million food-insecure people. These foods are high in micronutrients as well as biological-value protein. Moreover, a rich and varied diet is considered the best way to manage the 'hidden hunger' or micronutrient deficiency, which impairs the health and lowers capacity of around 2.5 billion people.

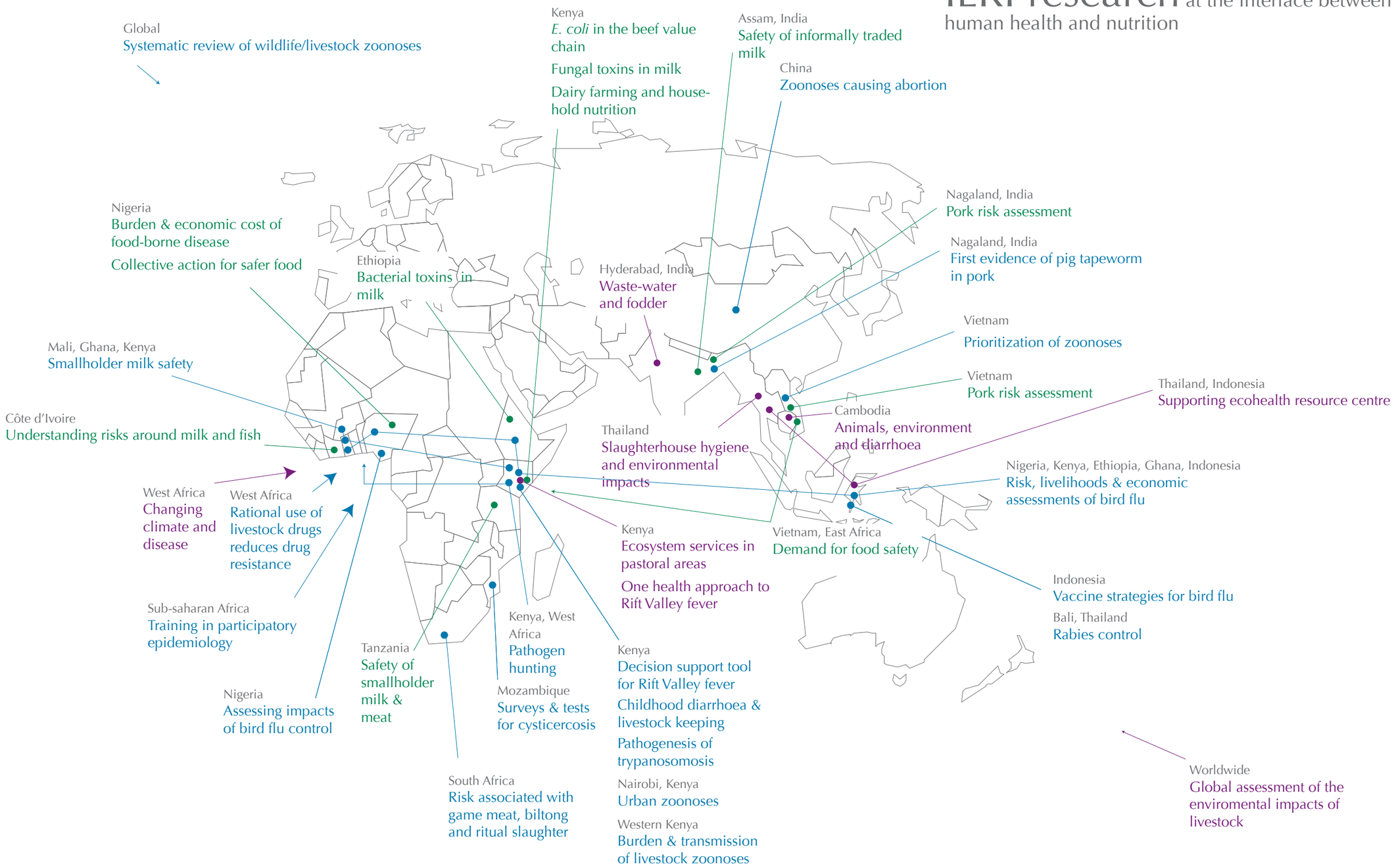
The harms and benefits associated with livestock are both enormous and complex. Research is urgently needed to maximize the health benefits and minimize the health risks of animal agriculture.

The role of the International Livestock Research Institute

ILRI (*www.ilri.org*) works with partners worldwide to help poor people keep their farm animals alive and productive, increase and sustain their livestock and farm productivity, and find profitable markets for their animal products. ILRI's headquarters are in Nairobi, Kenya; we have a principal campus in Addis Ababa, Ethiopia, and 13 offices in other regions of Africa (Mali, Mozambique, Nigeria) and Asia (New Delhi, Hyderabad, Dehradun, Kohima and Guwahati, India; and China, Laos, Sri Lanka, Thailand and Vietnam). ILRI is part of the Consultative Group on International Agricultural Research (*www.cgiar.org*), which works to reduce hunger, poverty and environmental degradation in developing countries by generating and sharing relevant agricultural knowledge, technologies and policies. This research is focused on development, conducted by a Consortium (*cgiarconsortium.cgxchange.org*) of 15 CGIAR centres working with hundreds of partners worldwide, and supported by a multi-donor Fund (*www.cgiarfund.org*).

FEB 2011

ILRI research at the interface between animals, human health and nutrition



Zoonoses and emerging infectious diseases

With rich biodiversity, booming populations, evolving agri-food systems and high animal densities, rapidly developing countries are hot spots for emerging infectious diseases. At the same time, in 'cold spots', neglected populations continue to suffer from diseases easily managed in other places.

Livestock, environment and human health

Livestock can have both positive and negative effects on the environment. They substitute for chemical fertilizers and greenhouse-gas-producing fuels and contribute to sustainable land use in mixed and pastoralist systems. At the same time, they produce greenhouse gases and are implicated in land degradation, deforestation and pollution.

Animal-source foods: safety and nutrition

Animal-source foods are excellent sources of nutrients for people but also for pathogens. Most diarrhoea is due to contaminated food and diarrhoea remains a major cause of sickness and death in poor countries.